Ministry of Communications and Information
An Engaged and Connected Singapore

Transcript of Opening Keynote Delivered by Mr Tan Kiat How,
Senior Minister of State,
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at ATxEnterprise (29 May 2024)

KEY HIGHLIGHTS

(i) The Digital Enterprise Blueprint (DEB) is set to benefit **at least 50,000 SMEs over the next five years**. It charts the next bound of digitalisation for enterprises and workers in harnessing digital technologies, particularly Artificial Intelligence (AI), to drive growth, innovation and resilience.

(ii) The DEB will support our SMEs and workers in these four focus areas: (1) Empower enterprises to **Be Smarter**, (2) Enable enterprises to **Scale Faster**, (3) Equip enterprises to **Be Safer**, and (4) Support enterprises to **Upskill Workers**. In particular, **more than 15,000 SMEs** will benefit from AI-enabled solutions in the next two years and **more than 400 digitally advanced SMEs** will benefit from IMDA's GenAI x Digital Leaders programme.

(iii) Partnerships are key to unlocking this next phase of growth and to build a thriving ecosystem for our SMEs and workers. For a start, **seven pledge partners*** have committed to support our SMEs and workers through the DEB to: (1) **Build Awareness** of the DEB (Singapore Business Federation), (2) **Strengthen AI adoption** (Amazon Web Services, Microsoft, Salesforce), (3) **Raise capabilities** of solution providers (Amazon Web Services, Microsoft), (4) **Raise cyber resilience** of SMEs (Amazon Web Services, Google, Microsoft), (5) **Upskill workers** (Singapore Computer Society, SGTech).

Note: More information on the seven pledge partners' initiatives and quotes at **Annex A of the DEB press release.*

1. Good morning, everyone. I'm very happy to be here at ATx Enterprise and have a chance to see many familiar faces and partners here this morning.

2. Today, I'd like to talk about the next bound of supporting our enterprises in their digitalisation journey. It's not an earth-shattering revelation to anyone that digitalisation and digital technology are increasingly playing a very important role in our economy, industries and enterprises, and making a difference in our workplace.

3. In fact, we have been working on this for many years with many partners. Thanks to the support from the SMEs and enterprises of technology partners, the digital economy in Singapore is growing and vibrant. You are nestled in one of the fastest growing region in the world – Southeast Asia. The Internet economy is growing and is estimated to be about USD 100 billion dollars in revenue last year. The digital economy is impacting almost any industry.

4. I heard a comment on radio this morning: if your job entails holding a phone or touching a keyboard, your job is going to be disrupted and transformed by technology including AI and GenerativeAI (GenAI). It's true for Singapore. 70% of our GDP is contributed by our digital economy. It creates good job and good opportunities. This is more critical for Singapore, an open economy that doesn't have oil in the ground, rare earth minerals under our hill, and

depends on innovation, hard work, and staying relevant to the global economy.

5. We are building a strong foundation in terms of supporting our economy, industries and companies using technology. This road didn't just start with the buzzwords of AI or GenAI. In fact, it is multi decades in the making. Hard work started many years ago, from our very first plans to computerise the civil service, to bringing technology in the workplace, and putting in place infrastructure like fibre to every home in Singapore. That's more than 10 years ago, and having a vision of how to use technology, starting with the very first plan in 1996, the National IT plan. It's more than 30 years in the making, and we've made good progress in terms of supporting our enterprises, industries and businesses in using technology. Over the years, 9 in 10 SMEs adopt at least one digital technology.

6. One area which I always encourage Singaporeans and our overseas guests is to see how technology is being used pervasively. And where else to go but Singapore. We are very proud of our food culture – where the local cuisine is, where the best chicken rice is. Over the years, you've seen the change at our hawker centers and food centres. More than 50% of our hawkers have adopted technology and offered e-payments options, especially newer generation hawkers and food stalls. It's not just about using technology at the big enterprises, medium-sized SMEs, but our hawkers, food centers and heartland shops are adopting technology. COVID-19 helped to give this a boost. Globally, we are ranked third in terms of digital competitiveness in the last ranking by IMD. But there's lots more to be done.

7. We've invested many years, seeing good progress, but the world is changing around us not just in terms of technological advances, but business opportunities and growth. Much more can be done to support our industries and enterprises. How to help them to make full and better use of emerging technologies, like generative AI? How are we supporting our SMEs who have just started their digitalisation journey, to go deeper and further, to make full use of the capabilities that they have invested in over the last few years? How do we close the gaps between SMEs and larger enterprises, which have more resources and more ability to take risk and experiment with technology? How do we close the gap for SMEs who have the ambition to do so? And most importantly, how are we upskilling our workers to make full use of the advances and opportunities in the workplace?

8. Having done SMEs Go Digital (SMEGD) for almost six years – we launched in 2017 – and working very closely with partners, trade associations, and industry associations which work very closely with our SMEs, we've had a very good sense of some of the challenges that SMEs are facing in terms of using technology.

9. I always joke, a few years ago before COVID, when MCI and our agencies like IMDA and cybersecurity agencies go out and advocate the use of technology in our industries - we often seem to be the ones knocking on the door - the door gets slammed in our face, as technology is seen to be a cost driver. No one sees technology as an investment and revenue driver.

10. But the conversations have changed over the years, particularly after COVID-19. SMEs, especially younger generation owners and management, want to use technology. But the challenge is they don't know where to start. How do we do it? How do we cope with the

complexity of doing technology? And what about all our legacy enterprise systems? How do we transition out from it? How do we make better use of our investment in technology? These are the kind of conversations that we've seen more recently, in the last couple of years.

11. We are building on a very good foundation of different schemes that we put in place over the years, such as SMEGD, CISO-as-a-service, etc. And where do we go from here? Really, this is the heart of the digital enterprise blueprint, answering these questions and charting the way forward.

12. As we think about the next phase of digitalisation, I think some things don't change. Yes, technology change how we want to do things, and these might have to change. But I think there are some fundamentals we recognise shouldn't change.

13. One of the fundamentals is, this is not technology for the sake of technology. It's not having the fanciest or the most expensive technology in your enterprise ecosystem so you can brag about it. Technology serves a purpose, especially more so for enterprises. Have pressing business problems make a difference. How does it make things better for me? How does it make things better for my customers and clients? How does it allow me to earn revenue, get market share, save costs, and be more competitive? Technology addresses a problem.

14. It's not just about using technology. Often times, whether is it fanciful technologies like Cloud, web3, GenAI, it's not just about lifting and dropping technology in the workplace to make it work. It is not about the ones and zeros, it is about the mindset shifts - the culture, the people - to make the technology work in the workplace, to make a difference for the workers and for your business. Thus, it's not about technology's sake, but also mindset, culture and people.

15. One of the innovations that we started off a few years ago, which many enterprises and business associations find useful, is what we call the Industry Digital Plans (IDPs). We've launched 22 IDPs thus far in a wide-range of sectors, from security guarding, food services, to services like the legal sector. What is the IDP and why is it a useful foundation for us to build on?

16. Firstly, IDPs is really a collective ownership of the sector, but the key stakeholders in that sector, the business leaders, the government agencies championing the sector, the union leaders, the technology partners coming together to chart a collective ambition for that sector, and then developing a plan to achieve that outcome. We don't start with the cart before the horse and say this is a technology that we want to use, and this is all the wonderful innovation, and then find a problem for the solution. We start with a problem, starting with a collective ownership of where you want to go and looking for the technology. So these are some of the fundamentals that I don't think you need to change and shouldn't change even as we chart the next bound.

17. Today we are launching the next bound of digitalisation. We call it the Digital Enterprise Blueprint (DEB), and we expect that this will benefit at least 50,000 SMEs in the coming years. I think this is a conservative number. Since SMEs Go Digital started, we've benefited almost 100,000 SMEs over the last few years. And moving forward, we think that we will

benefit at least 50,000 with the new upgraded DEB, new capabilities, new partnerships and new innovations.

18. Let me just talk about the four focus areas of the DEB. The first is supporting our enterprises to be smarter, especially using artificial intelligence. Secondly is supporting our enterprises to scale faster to seize the burgeoning opportunities especially in the region. And thirdly, in this digital world, you cannot talk about innovation and skilling and be smarter without being safer. You don't want to be an enterprise that's riding away for digitalisation. But once you're hit by a cybersecurity event or incident you cannot recover. So cyber resilience, be safer. And fourthly, supporting our workers to upskill them to seize opportunities.

19. Let me just briefly touch on some of the four prongs, the four focus areas. The first is about artificial intelligence (AI). I think we are preaching to the converted here. These are transformative technology, pretty much a general-purpose technology like the internet that is going to touch every digital system, every job, every industry. And rather than pretending that it's not going to happen, let us embrace the technology and be at the forefront of change. And I think the best way to describe it is that while we cannot predict the future, the best way to do so is to make the future, create it, and support our enterprises adopting technology, especially AI.

20. How do we do so? We do so in a few prongs. One, at a broad base, we have more than 200,000 SMEs in Singapore. How do we support all of them? You can be an F&B food services outlet, you can be a hawker, you can be an SME in the medical field, you can be a medium-sized enterprise in the hospitality setting. How do we help all companies, SMEs, to benefit from AI quickly, without having to go through all the technical complexity and pay a heavy price of tuition. One way to do that is that we'll update our 22 IDPs that we have already launched, to incorporate AI functions and capabilities and roadmap in all our 22 plans as we refresh them.

21. Secondly, we have a set of pre-approved solutions as part of the SMEs Go Digital, where SMEs in your sector, you can determine what is the kind of problems you're trying to solve based on your digital maturity. Different SMEs have different levels of maturity. Based on your digital maturity, what is the set of solutions that are pre-curated that comes with government support that you can subscribe to? For these pre-approved solutions, we will turn on the AI functionalities for all of them where possible, to turbocharge our enterprises in using AI. So you don't have to worry about all the complexity, hiring AI engineers, AI scientists, to understand what kind of AI to choose and how to do that. Just adopt the digital solutions and under the hood is turbocharged AI for you. And we expect to benefit at least 15,000 SMEs in the coming two years. So that's one, broad base.

22. We see promising, encouraging starts. For example, legal firms like Rajah and Tann are using AI, to some extent GenAI, in their knowledge management. So they have this system called ‘Ask Mohan’. I don't know who Mohan is, but the system is known as ‘Ask Mohan’. And Mohan is a wonderful knowledge management system enabled by AI, allowing lawyers to quickly search case precedents and legal cases. It is a matter of seconds and minutes, rather than weeks and hours in the past.

23. It's not just about legal services. We also see many more SMEs including those in the education space, for example, Algora Co-learning, which is an education institute for young kids, using AI and empowered CRM systems to better manage and engage their clients and customers. How I interpret what they mean is that they have less angry parents using some of the systems, and they are managing their stakeholders. And we see encouraging support and results. 20% of our SME Go Digital solutions are already AI enabled, as some examples showed, we will make sure that we empower all of them in the coming years.

24. It's not just about broad base support. We are also encouraging innovation at the cutting edge. SMEs want to bespoke or develop their AI solutions to solve their problems, perhaps unique situations that they face, or to create IP, which they believe can replicate and scale up and use to solve similar problems elsewhere in industry and the world. So how are we supporting those digitally advanced SMEs who have blue ocean thinking, to create new innovation?

25. Well, there are two things we are doing as part of the DEB. First, we are pairing them up with tech leaders like Microsoft, Amazon Web Services (AWS), and many others to support what we call the GenAI for Digital Leaders Programme run by IMDA. In the coming years, we expect to support at least 400 of such innovation and such digitally advanced companies. We are also supporting startups. I am very glad to share later today that we will release that NVIDIA and Tribe and Digital Industry Singapore will be launching an initiative, an incubation for AI startups with $3 billion as a seed funding for this AI incubation. So you're supporting innovation, not just at the startup level, but also for more digitally advanced enterprises who want to break new grounds and innovate.

26. Be smarter is important, but oftentimes SMEs will tell us they need to scale much faster, to seize market opportunities, not just in Singapore but overseas. How can they scale? For example, one bubble tea shop and now you have the successful recipe and format, out to 10 bubble tea shops in the coming years. It is not so easy to scale when you have a legacy system. And it's much more so for small enterprises without a very large IT team managing many of these complexities.

27. So what do we do? Well, what we intend to do is as part of the IDPs, we will have more integrated solutions within those plans. So SMEs adopting many of the pre-approved solutions have the assurance that over time as they adopt more and larger suite of digital solutions, those solutions can talk to each other, interoperate and can scale much faster as the enterprises scale their businesses.

28. Where such integrated solutions are not available in the market and it could be so because certain industry sectors may have their own unique problem statements, unique needs. What will we do? We will catalyse development of such integrated solutions through the Advanced Digital Solutions (ADS) team. Together with the sector leads and the IDP partners, we will draw out a promise statement and we welcome industry to propose innovations to solve these problems and to create integrated digital solutions. And if it works, we will move them into a pre-approved scheme to show that mass market can adopt these solutions. So we

have more integrated solutions to support our SMEs in skilling and their ambitions.

29. Lastly, for the more technologically inclined audience here, we will require more and more of SMEs Go Digital solutions to be cloud native in architecture. So it's scalable, secure, and able to deploy much more easily.

30. Yesterday, I visited Wanpo Tea Shop and enjoyed my bubble tea while speaking to the owner. They are doing very well with long crowds, but they faced issues in scaling their business as they had stovepipe solutions, resorting to a lot of manual entries and reconciliation of errors. So with integrated digital solutions that we launched in 2022 under the Food Services IDP, they were able to scale and happy to announce that they will be scaling up their bubble tea beyond just Jem in Jurong but elsewhere in Singapore.

31. Let me talk about the third focus area. I talked about Be Smarter, Scale Faster, but it is also very important to Be Safer. Based on The Cyber Security of Agency of Singapore (CSA)'s Cybersecurity Health Report, they did a survey in 2023 and the results were very surprising. 8 in 10 of our SMEs were impacted by cybersecurity incidents and that's very high. I always tell SMEs' bosses and industry partners that you might not be the target, but you could well be the collateral damage. When ransomware is in the wild, you never know when you will be hit and you might be one of the victims.

32. Of these 8 in 10, almost all of them suffered some business loss, reputation loss, loss of customer data or ransomware attack data where their data gets locked, and they have to pay off some of the ransom unfortunately.

33. In the survey, we discovered very low levels of cyber hygiene as only one in three of them adopted at least three out of five of the very basic cyber essential aspects that CSA has put out. So the level of cyber hygiene among enterprises was very low.

34. And when we ask them why they are not doing more? Many of the SMEs say yes, I'd like to do more, but hopefully not so expensive and not so costly. However, I still don't know where to start and I don't have the competence to even get started.

35. So what are we doing? Well, I will describe our approach in two ways. One is about stronger locks. And second about safer streets. Why stronger locks? Well, it's no different from the physical analog world. Every household – all of us – has to invest in our own security system. You won't leave your door unlocked when you leave your house. You will invest in a proper lock.

36. Similarly, every SME will need to invest in your own cybersecurity, to maintain trust with your customers and your clients to ensure business continuity. You are investing in your own cybersecurity. It is an investment, not just a cost.

37. And we are doing many things to support our SMEs. For example, having Cyber Essentials and the Cyber Trust Mark to tell SMEs and give them a checklist on what they need to do. We also have Chief Information Security Officer-as-a-Service (CISOaaS) – so if you are not sure

what to do, there are consultants that we help to subsidise to tell you what to do – it's like a Healthier SG Health Plan.

38. But beyond that, we are also raising the standards of the digital solutions, because SMEs will tell us, I adopt the digital solutions but I don't know how cybersecure the solutions are.

39. As part of the stronger locks, we are also uplifting the cybersecurity standards of our digital solution providers. One, by setting standards for them as part of the pre-approved solutions, but also working very closely with our cloud service providers to uplift standards of their tech ecosystem.

40. So that's on stronger locks. But at the same time, we acknowledge that even like in a physical world, we can have the best locks and best security systems, but it may not help much if you're staying in a very dangerous neighbourhood where crime is rife.

41. So how are we making sure in a digital world, we have safer streets, safer estates, and safer digital operating environment for SMEs? CSA is working very closely with our partners to do so.

42. One by uplifting the cybersecurity standards of every sector. As part of our refreshed IDPs, we will look at how we consider embedding cybersecurity considerations more deeply in our IDPs.

43. But CSA is also working sector by sector, especially for the high-risk sectors, on how to uplift cybersecurity posture in the entire sector.

44. One good example is what we are doing with healthcare. It's a sector that we all know, holds very sensitive personal information of their patients. And it's not so easy in Singapore and I think likewise in many other parts of the world, there are multiple providers of healthcare services.

45. It's not just one provider – not one government agency providing all the health care. You have general practitioners (GP), doctors in specialist clinics and you have different geographical distribution of these clinics. If you want to have a system that allows data to flow, this means that every endpoint of your GP is the endpoint that could be vulnerable.

46. So how do we uplift standards across the board? And that's where CSA is working together with the Ministry of Health as we roll out the National Electronic Health Record (NEHR) system. How we are uplifting standards not just at the core systems, but across the entire healthcare sector, including at the end points. We are working with partners, for example Parkway Shenton, to level up the cybersecurity of their hospitals, as well as their GPs across the board.

47. This is a mindset shift we have to think about – not just at the enterprise level of stronger locks, but at the entire sector level in terms of safer streets.

48. I will briefly touch on the last focus area because I think this is something that's quite intuitive. Someone wise once told me, the surest way to lose money is to gamble. The fastest way to lose money is to invest in technology that you don't know about. But I add on, the stupidest way to lose money is that having invested in the technology, you don't train your staff how to use it effectively.

49. So please, don't be stupid. You have made heavy investments and to yield good results, you have to train your workers and engage them, reskill them and uptool them to effectively use the technology that you have put in place in your business ecosystem.

50. How are we doing so? There are two things we are focused on in the DEB. First, it is the general workforce. How are we supporting the general workforce? As part of the IDP, as we worked out a roadmap on digitalisation for every sector with the key stakeholders, one of the most important stakeholders in the transformation journey is the people and workers themselves.

51. As part of the refreshed and newly launched IDPs, we will have as part of it a digital skills training roadmap, where companies when they choose the solutions to adopt, it comes with a set of recommended training for your workers. What are the skillsets to learn? And who are the training providers that you can tap on? And what are the government grants that you can avail yourself to?

52. So please make full use of this digital skills training roadmap. It's not just about adopting a digital solution, but please train your workers on how best to use these digital solutions. Choose a training provider wisely, and there's government support for you to do so.

53. So that's the first thing we are doing, and we will tie it more closely with our partners, whether it's NTUC, e2i, SkillsFuture Singapore, or different agencies coming together on this collective effort.

54. The second thing we are doing is really about making sure that there's enough tech talent and tech professionals in this ecosystem to support all the things we want to do, in terms of innovating tech, deploying, or just operating and maintaining systems.

55. We need tech professionals and there is a global shortage. Over the last five years, we've created and have extra 50,000 new jobs from around 155,000 tech professionals a few years ago to more than 200,000 today. And we still have vacancies. At any one point in time, probably 10,000 vacancies in the market.

56. How are we supporting our enterprises in this regard? There are two aspects. One is about retooling and reskilling our existing 200,000 IT professionals to pick up new skills about cloud, mobility, new ways of developing software or AI.

57. We are retooling and reskilling our tech professionals under our TechSkills Accelerator (TeSA) programme and we aim to reskill at least 18,000 of them in the coming years with all these

in-demand skills.

58. Reskilling and retooling is necessary, but not sufficient. We need a pipeline of new talent coming in, especially in emerging technology like AI.

59. Earlier, we committed to training 15,000 AI professionals over the coming years. So retooling and rescaling the existing workforce as tech professionals, but also creating new pathways with in-demand skills in emerging technology areas.

60. We are very heartened because it is not just about programmes. When it comes to manpower, it's not just about progress and initiatives. It is making a difference in somebody's life and knowing that someone has successfully walked that journey using the initiatives that we have rolled out. And I was very heartened to have seen two individuals.

61. One is Christopher, who wasn't trained in Science, Technology, Engineering and Mathematics (STEM). He was an optometrist for 15 years, but he has an interest in technology and decided to take the plunge and went through all the programmes under TeSA. Now, he has been reskilled as a cloud and software engineer, and meaningfully deployed in developing and deploying technology.

62. It is also not just looking at a person and where his starting point is, but also working a journey with him. Haikal graduated from ITE and went through Higher NITEC, polytechnic that was supported by his employer under a work-study programme, and he is now studying cybersecurity management at SIM University.

63. This is an important shift that we are making. It is not just about looking at a candidate's qualifications, but looking at skills and hiring someone for a job because he can do the job regardless of which piece of paper he is holding. And in a job, retooling and reskilling them so they can get better pay, better opportunities, as long as they're willing to work hard for them.

64. And all these can't be done without Partnerships, which leads me to the last slide. I'm very heartened that in the process of developing the DEB, we consulted widely, engaged widely with the industry players, with members of the public and we had very enthusiastic and positive responses about what we can do.

65. And I'm much more heartened, when people tell us it's a good thing to do, but also step forward and say, "I will do it together with you. Let's work on it together because we believe it makes an impact and it's a win-win outcome."

66. Today, we are starting off with seven partners. We are happy to have Singapore Business Federation with us who has committed to leveraging its network of 30,000 SMEs to help to amplify initiatives in the blueprint and benefit more of its members and bring more of its members along in next phase of digitalisation.

67. Secondly, we are very happy to have Microsoft, AWS and Salesforce to strengthen AI adoption in our ecosystem. For Microsoft, we heard about the Pinnacle AI programme, making sure

that co-pilots solutions are more accessible to more SMEs and also supporting SMEs to innovate. Salesforce is launching its Data+AI Boost programme to benefit at least 5,000 SMEs in the coming years and I look forward to this boost from Salesforce.

68. Together with Microsoft and AWS, we are supporting the GenAI for Digital Leaders programme to support more than 400 of them to innovate and create solutions that work for them and scale up to a wider industry and beyond.

69. Beyond working on strengthening AI adoption, we want to also raise capabilities of our digital solutions providers, because these are the important channels for enterprises in adopting digital solutions and I'm very heartened to have AWS and Microsoft work together with us to better equip their ecosystem of solution users riding on their platform to have new capabilities in AI and GenAI to be more cyber secure, and to reach out to more enterprises and have more opportunities to grow their business. It is a win-win outcome. Thank you very much for AWS and Microsoft in that.

70. CSA is also partnering with AWS, Microsoft and Google on a few things. One is by expanding our existing collaboration on cloud security and giving a big push to scale faster through cloud, native architecture, and more adoption of cloud. We want to make sure cloud security is up there and enterprises have assurance that when they move their digital solutions on to a cloud environment, it is secure. We are working very closely with the cloud service providers to tighten the cybersecurity around the cloud offerings, as well as the digital solutions sitting on the cloud.

71. Last but not least, I'm very thankful for our own tech industry associations, Singapore Computer Society (SCS) and SGTech for reaching out to our own tech community. Firstly, to raise awareness of our DEB and secondly, to bring in our tech enterprises and crowd them in to participate in many of the initiatives.

72. For example, SGTech will place at least 300 TIP apprentices into good apprenticeship opportunities among its own network of companies - more than 1,400 of them. SGTech will also drive adoption of skill-based hiring, retention and development.

73. For SCS, we're very happy that they are expanding the outreach to non-ICT sectors. So it's not just at a government to government level, but at the industry association level, reaching out to non-tech sectors to bring everyone along, whether it's in manufacturing, accountants or legal services. We want to uplift everyone and SCS is playing its part to bring the rest of its brother industry associations along.

74. And I was talking about non-sector to non-tech sector support. At this point in time, there is an MOU signing concurrently taking place right now, where IMDA is signing an MOU with the Singapore Academy of Law to develop a context based large language model using ChatGPT for the legal sector. It's not just about supporting our own sector but we're reaching out to bring every sector along, both at the government-to-government level, and at the industry association-to-industry association level.

75. We welcome more partners to join us as we embark on next phase of digitalisation. We are launching the DEB today, but it's certainly not the end of a journey and is the start of the next chapter. There is much more work to be done as we equip our enterprises to be smarter, safer, scale faster and upskill our workers, creating better jobs, better opportunities, and better outcomes for our economy. Thank you very much and we welcome more partners.